

Notice of Allowability

Application No.

10/680,824

Examiner

Anne R. Kubelik

Applicant(s)

BOUDREAU ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to response and amendment filed 10/24/06.
2. ☒ The allowed claim(s) is/are 3-5,7,9-13,15 and 16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. ☐ Notice of References Cited (PTO-892) | 5. ☐ Notice of Informal Patent Application |
| 2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. ☒ Examiner's Amendment/Comment |
| 4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. ☐ Examiner's Statement of Reasons for Allowance |
| | 9. ☐ Other _____ |

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Greg Warren on 28 November 2006.

IN THE CLAIMS:

3. (currently amended) The method of claim 7, wherein the plastid transformation vector ~~recombinant nucleic acid molecule encoding two selectable markers~~ further comprises one or more gene constructs of interest expressible in plastids and encoding one or more gene products of interest, and wherein the one or more gene constructs of interest are adjacent to the second selectable marker (~~lethal marker~~) construct on the vector.

4. (currently amended) The method of claim 3, wherein the second selectable marker (~~lethal marker~~) construct and the ~~gene construct~~ or one or more gene constructs of interest each have different promoters functional in plastids and are expressed independently.

5. (currently amended) The method of claim 3, wherein the second selectable marker (~~lethal marker~~) construct and the ~~gene construct~~ or the one or more gene constructs of interest are organized as a operon-like polycistronic gene.

7. (currently amended) A method for obtaining a transplastomic plant comprising the steps of:

a) introducing into a plant cell plastid a plastid transformation vector ~~recombinant nucleic acid molecule encoding two selectable markers~~ comprising two distinct selectable marker constructs, wherein the first selectable marker construct comprises a promoter functional in a plant cell plastid and a transcriptional termination region functional in a plant cell plastid operably linked to a first selectable marker (a non-lethal marker) that confers resistance to a non-lethal selective compound and the second selectable marker construct comprises a promoter functional in a plant cell plastid and a transcriptional termination region functional in a plant cell plastid operably linked to a second selectable marker (a lethal marker) that confers tolerance to a lethal compound, ~~and wherein each of the selectable marker constructs comprises a promoter functional in a plant cell plastid and a transcriptional termination region functional in a plant cell plastid, wherein introducing the recombinant nucleic acid molecule encoding two selectable markers is accomplished by a plastid transformation vector, said vector comprising the nucleic acid molecule encoding~~ wherein the second selectable marker (lethal marker) construct is flanked by nucleic acid sequences which are homologous to non-essential plastid targeting nucleic acid sequences, and ~~the recombinant nucleic acid molecule encoding the first selectable marker (non-lethal marker)~~ construct is flanked by nucleic acid sequences which are homologous to essential plastid targeting nucleic acid sequences;

b) placing a plant cell comprising the recombinant nucleic acid molecule on a first culture medium comprising a plastid non-lethal compound to which the first selectable marker confers

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resistance for either 1) a period of about 2 weeks or 2) or until shoots appear on a callus formed from the plant cell; and

c) placing the plant cell on a second culture medium comprising a plastid lethal compound to which the second selectable marker confers resistance for a period of time sufficient to permit the plant cell to be homoplasmic for the lethal marker; and

d) obtaining a transplastomic plant by regenerating the transplastomic plant from the plant cell, wherein the transplastomic plant ~~comprises only the second~~ does not comprise the first selectable marker ~~(lethal marker)~~.

9. (currently amended) The method of claim 7, wherein ~~the nucleic acid molecule encoding the first selectable marker (non-lethal marker) sequence~~ is unstably or transiently integrated into the plastome.

10. (currently amended) The method of claim 7, wherein the first selectable marker ~~(non-lethal marker)~~ is an antibiotic resistance gene.

12. (currently amended) The method of claim 7, wherein the second selectable marker ~~(lethal marker)~~ is a herbicide tolerance gene.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (571) 272-0801. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg, can be reached at (571) 272-0975.

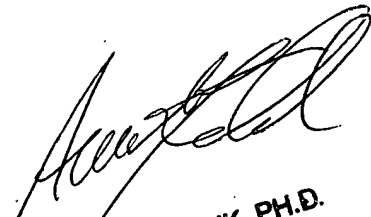
The central fax number for official correspondence is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Anne R. Kubelik, Ph.D.
November 29, 2006



ANNE KUBELIK, PH.D.
PRIMARY EXAMINER